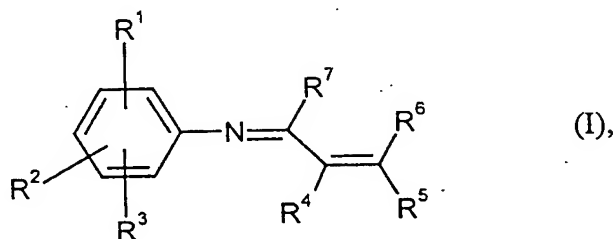


WHAT IS CLAIMED IS:

1. Anti-aging agents, based on organic compounds comprising azadiene groups of the general formula (I)

5



wherein

- 10 R^1 represents hydrogen, straight-chain or branched C_1 - C_{12} -alkyl, C_1 - C_{12} -alkoxy-, C_1 - C_{12} -alkylthio-, C_1 - C_{12} -alkylamino, di- $(C_1$ - C_{12} -alkyl)-amino-, C_6 - C_{14} -aryl-, C_6 - C_{14} -aryloxy-, C_6 - C_{14} -arylthio-, C_6 - C_{14} -arylamino, C_2 - C_{12} -heteroaryl-, C_2 - C_{12} -heteroaryloxy-, C_2 - C_{12} -heteroarylthio-, C_2 - C_{12} -heteroaryl-amino,

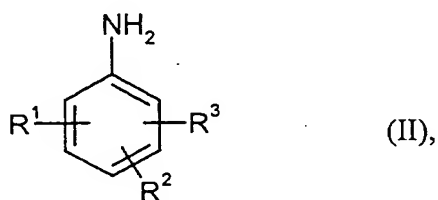
- 15 R^2 and R^3 are the same or different and represent straight-chain or branched C_1 - C_{12} -alkyl, C_1 - C_{12} -alkoxy-, C_1 - C_{12} -alkylthio-, C_1 - C_{12} -alkyl-amino, di- $(C_1$ - C_{12} -alkyl)-amino-, benzyl-, 1,1-dimethylbenzyl- or phenyl-,

- 20 or together form a 5-10-link aliphatic or aromatic, mono- or polynuclear ring system, which may optionally be interrupted once or more than once by heteroatoms selected from the group consisting of N, O and S,

- 25 R^4 to R^7 are the same or different and represent hydrogen, straight-chain or branched C_1 - C_{12} -alkyl-, C_5 - C_{12} -cycloalkyl- or C_6 - C_{14} -aryl-, mono- or polyunsaturated, olefinic or acetylenic, straight-chain or branched C_2 - C_{12} -alkenyl-, C_2 - C_{12} -alkinyl- or C_5 - C_8 -cycloalkenyl,

or together form a 5-8-link, aliphatic ring system, which may optionally be interrupted once or more than once by heteroatoms selected from the group consisting of N, O and S.

- 5 2. Process for the production of the anti-aging agents according to Claim 1, comprising reacting substituted primary aromatic amines of the formula (II)



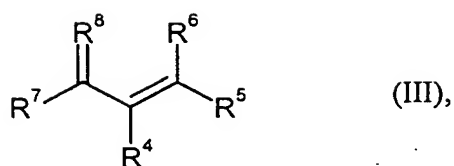
10

wherein,

15 R¹ represents hydrogen, straight-chain or branched C₁-C₁₂-alkyl, C₁-C₁₂-alkoxy-, C₁-C₁₂-alkylthio-, C₁-C₁₂-alkylamino, di-(C₁-C₁₂-alkyl)-amino-, C₆-C₁₄-aryl-, C₆-C₁₄-aryloxy-, C₆-C₁₄-arylthio-, C₆-C₁₄-arylamino, C₂-C₁₂-heteroaryl-, C₂-C₁₂-heteroaryloxy-, C₂-C₁₂-heteroarylthio- and C₂-C₁₂-heteroarylamino,

20 R² and R³ are the same or different and represent straight-chain or branched C₁-C₁₂-alkyl, C₁-C₁₂-alkoxy-, C₁-C₁₂-alkylthio-, C₁-C₁₂-alkyl-amino, di-(C₁-C₁₂-alkyl)-amino-, benzyl-, 1,1-dimethylbenzyl-, phenyl-,

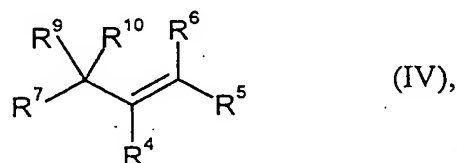
or together form a 5-10-link aliphatic or aromatic, mono- or polynuclear ring system, which may optionally be interrupted once or more than once by heteroatoms selected from the group consisting of N, O and S, with
25 optionally substituted conjugated 1,3-enones and/or 1,3-enals of the formula (III)



wherein, R^4 to R^7 are the same or different and represent of hydrogen, straight-chain or branched C_1 - C_{12} -alkyl-, C_5 - C_{12} -cycloalkyl- or C_6 - C_{14} -aryl-,
 5 mono- or polyunsaturated, olefinic or acetylenic, straight-chain or
 branched C_2 - C_{12} -alkenyl-, C_2 - C_{12} -alkinyl- or C_5 - C_8 -cycloakenyl,
 or together form a 5-8-link, aliphatic ring system, which may optionally be
 interrupted once or more than once by heteroatoms selected from the
 group consisting of N, O and S.

10 and wherein R^8 represents oxygen, sulfur and NR^4 group

and/or their synthetic equivalents of the formula (IV)



15

wherein,

R^9 and R^{10} are the same or different and represent hydroxy, chloro, bromo,
 straight-chain or branched C_1 - C_{12} -alkoxy, C_1 - C_{12} -alkylthio, C_1 - C_{12} -
 alkylamino or together form a C_2 - C_{12} -alkanedioxy- or C_2 - C_{12} -
 20 alkanediamino group.

3. A rubber vulcanizate produced with an anti-aging agent according to Claim 1.

4. A mixture comprising anti-aging agents according to Claim 1 and at least one additional anti-aging agent, wherein the mix ratio of anti-aging agents according to Claim 1 to at least one additional anti-aging agent is 10:1 to 1:10.
5. A rubber vulcanizate produced with an anti-agent mixture according to Claim 4.
6. A process for preparing a rubber mixture comprising mixing one or more rubber monomer with an anti-aging agent according to Claim 1.
7. The process according to Claim 6, further comprising adding a vulcanization agent.